COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Southwest Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

General Shale Products Corporation
Atkins, Virginia-Smyth County
No. SWRO10244

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, General Shale Products Corporation has applied for a Title V Operating Permit for its brick manufacturing facility located in Atkins, Virginia. The Department reviewed the application, prepared a draft Title V Operating Permit, and issued the original permit on 2/26/01. The permit was administratively amended on 8/31/01. General Shale Products Corporation submitted a permit application on March 3, 2003, requesting deletion of the references to Method 22 in the permit. The permit was re-opened to revise the language for visible emissions.

(As modified August 13, 2003)

Engineer/Permit Contact:_____ Date:_____

Air Permit Manager:_____ Date:_____

Deputy Regional Director:_____ Date:_____

FACILITY INFORMATION

Permittee
General Shale Products Corporation
P.O. Box 3547
Johnson City, TN 37602

Facility
General Shale Products Corporation
Route 1; Box 460
Atkins, VA 24311

NET ID No. 51-173-0011

SOURCE DESCRIPTION

SIC Code: 3251 - Manufacture face brick.

General Shale Products Corporation is a manufacturer of face brick covered by Standard Industrial Classification (SIC) Code 3251. The facility is located 11 miles northeast of Marion, Virginia, on the south side of U.S. Route 11. The company's #6 plant has two small tunnel kilns (A&B) and the #28 plant has a single large kiln. Both plants are fired with natural gas and coal.

The operation at the facility consists of blending components together and the bricks are formed and stacked on kiln cars. The cars are pushed into the kilns on a regular schedule. This facility has the potential to operate 24 hours per day, 7 days per week, 52 weeks per year. This facility manufactures face brick from shale material that has been mined, processed and stockpiled. The facility is permitted to manufacture 21.9 tons of brick per hour (191,840 tons per year).

The facility is a Title V major source of hydrogen fluoride (HF) and sulfur dioxide (SO_2). This source is located in an attainment area for all pollutants and is not subject to PSD.

General Shale submitted an updated Title V application dated March 3, 2003, requesting that all references to Method 22 for visible emission observations be deleted and that appropriate language be substituted for visible emission observations. This permit was re-opened to incorporate the appropriate language via a significant modification.

COMPLIANCE STATUS

The facility is inspected one time each year. The facility was found to be in compliance with all applicable requirements as of the inspection on 12/1/99. Based on previous stack-testing results, the facility has demonstrated compliance for particulate emissions that are well below the NSR permit limits. A summary of historical, stack-testing PM results are shown below.

	Dec. 99	Oct. 96	Oct. 95	Oct. 93	Oct. 90	Oct. 87	Permit Limit
Kiln #6B PM, lbs/hr	2.40	0.87	4.52	3.66	4.70	4.27	7.125
Kiln #7, Plant #28 PM. Lbs/hr	2.55	7.51	13.06	11.18	7.02	11.05	19.86

By using controls as specified in the permit, the facility has maintained compliance. There are no outstanding compliance issues.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emission units at this facility consist of the following :

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Shale Preparation/Brick Manufacturing Process							
02	02	Shale Prep.;McClanahan Primary, Crusher, Steele Grinders,Tyler & Leahy Screens; other custom-1973	100 tons/hr output	Wheelabrator 108; Size 115 w/fabric filter baghouse	02	Particulate	NSR Permit dated August 2, 2000
03	03	Plant 6 Steele Brick Machine & Custom Built Texture Equipment-1952	40 tons/hr output	Custom-Exhaust fan w/settling chamber	03	Particulate	NSR Permit dated August 2, 2000
04	04	Plant 28 Steele Brick Machine & Custom Built Texture Equipment-1973	100 tons/hr output	Wheelabrator 108; Size 90 w/fabric filter baghouse	04	Particulate	NSR Permit dated August 2, 2000
05	05	Plant 6 "A" Miller Dryer/Kiln-1952/1980	3.6 tons/hr output	Internal controls	05	PM, SO_2	NSR Permit dated August 2, 2000
06	06	Plant 6 "B" Miller Dryer/Kiln-1952/1980	3.6 tons/hr output	Internal controls	06	PM, SO_2	NSR Permit dated August 2, 2000
07	07	Plant 28 Harrop Dryer/Kiln-1952/1980	14.7 tons/hr output	Internal controls	07	PM, SO_2	NSR Permit dated August 2, 2000
Coal Processing							
08	08	C-E Raymond and Custom Drying/Pulverizing System-1980	2.6 tons/hr output	Carter-Day 48 RF8 w/fabric filter baghouse	08	Particulate	NSR Permit dated August 2, 2000

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

The 1996 permit application emission inventory is shown below. Emissions are also summarized in the Title V permit application.

1996 Actual Emissions

	Criteria Pollutant Emission in Tons/Year				
Emission Unit	**VOC**	**CO**	**SO_2**	**PM_{10}**	**NO_x**
01	0.003	0.01	0.0003	0.003	0.05
02	-	-	-	0.23	-
03	-	-	-	0.05	-
04	-	-	-	0.20	-
05	0.34	11.44	25.29	2.78	7.29
06	0.34	11.44	25.29	2.78	7.29
07	1.06	35.46	74.36	19.36	22.61
08	-	-	-	0.20	-
Total	1.74	58.35	124.94	25.60	37.24

1996 Facility Hazardous Air Pollutant Emissions

Pollutant	**Hazardous Air Pollutant Emission in Tons/Year**
Hydrogen Fluoride	12.40

EMISSION UNIT APPLICABLE REQUIREMENTS - Brick Manufacturing Process (05, 06, 07)

Limitations

The following applicable limitations are State BACT requirements from Conditions 3, 5, 6, 7, 8, 9, 10, 11, and 12 of the minor NSR permit issued on August 2, 2000:

Condition 3, which states that emissions shall be controlled using internal controls, supplemental fuel, and coal with 1.1% sulfur and 6% ash content.

Condition 5, which states that the fuel used shall be coal with natural gas as supplemental fuel.

Condition 6, which states the limits on coal consumption for the dryer/kilns.

Condition 7, which states the limits on brick production for the dryer/kilns.

Condition 8, which states specifications for the coal used in the dryer/kilns.

Condition 9, which states the emission limits for dryer/kiln operations.

Condition 10, which provides visible emission limits for the dryer/kiln exhausts.

Condition 11, which states the performance testing requirements for the dryer/kiln process.

Condition 12, which states the fuel compliance requirements for the dryer/kilns.

Monitoring

The monitoring requirement in Conditions 10 and 12 of the NSR permit have been incorporated to meet Part 70 requirements.

a. The permittee shall perform a visible emission observation on each kiln exhaust stack (I.D. Nos. 5, 6, and 7) once each week during each week when there is operation. The visible emission observation shall be performed for a brief period of time to identify the presence of visible emissions. If, during any visible emission observation, visible emissions are observed (condensed water vapor/steam is not a visible emission) which are higher than 10% opacity, a visible emissions evaluation (VEE) shall be conducted using 40 CFR 60, Appendix A, Method 9, for six minutes. If the observed visible emissions are 10% opacity or less, no action shall be required. If the opacity average is higher than 20%, modifications and/or repairs shall be performed to correct the problem. If such correction action fails to correct the

problem a VEE using 40 CFR Part 60, Appendix A, Method 9 shall be conducted for 18 minutes to determine compliance with the opacity limit. The visible emissions observer shall be Method 9 certified.

b. The permittee shall sample the coal pile once per day and composite the sample.

Recordkeeping

The recordkeeping requirements in Conditions 5, 6, 7, 8, 9, and 12 of the NSR permit have been incorporated to meet Part 70 requirements.

a. The permittee shall maintain hourly and yearly records on coal consumption to meet NSR permit requirements, which shall include calculation of sulfur dioxide (SO_2) emissions by the mass balance method to demonstrate compliance. (Conditions 6 and 9)

   Sulfur dioxide emissions shall be calculated in the following manner:

   [% sulfur in coal (from Item c.) x (lbs coal/month)/(total kiln operating hours/month) x 2] + [(%sulfur in shale) x (lbs shale/month)/(total kiln operating hours/month) x 2] = total lbs/hr of SO_2.

   [% sulfur in coal (from Item c.) x (tons coal/yr) x 2] + [(% sulfur in shale) x (tons shale)/yr x 2] = total tons SO_2/yr.

b. The permittee shall maintain hourly and yearly records of brick production to meet NSR permit requirements, which shall include calculation of NOx, VOC, and CO emissions by the use of pollutant-specific emission factors to demonstrate compliance. (Conditions 7 and 9)

   NOx, VOC, and CO emissions shall be calculated as follows:

   [(Total tons brick/month)/(total kiln operating hours/month)] x AP-42 factor = lbs/hr

   (Total tons brick/year) x AP-42 factor x 1 ton/2000 lbs = tons/yr

c. The permittee shall maintain records demonstrating compliance with coal specifications for sulfur and ash content and for use in calculation of sulfur dioxide emissions; including vendor-supplied records and analyses. (Conditions 8, 9, and 12)

d. There is no recordkeeping requirement for Condition 5 of the NSR permit.

e. The permittee shall maintain records of the weekly visible emission checks on each kiln

exhaust and any observations, VEE results, and corrective actions.

f. The permittee shall maintain hourly and yearly records of particulate matter emissions from brick production. Hourly and yearly particulate emissions shall be calculated each month utilizing a production-based emission factor derived from the last performance test.

Testing

The permittee shall complete performance testing for particulate matter on the kiln exhausts once every five years to demonstrate compliance with particulate emission limits. To the maximum extent possible, the NSR permit requirement (Condition 11) for performance testing and the frequency stated above shall be the Title V performance test requirement and frequency; the next performance test being completed no later than December, 2004 (and once every five years thereafter).

The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard. Details shall be arranged with the Director, Southwest Regional Office. (Conditions 3, 9 (PM 10 only), and 11)

Streamlined Requirements

Condition 13, which states the recordkeeping requirements, has been incorporated into the recordkeeping requirements for the brick manufacturing process.

EMISSION UNIT APPLICABLE REQUIREMENTS - Shale Preparation Process (02) - Dust Collection System with Fabric Filter Baghouse; Plant 28/Brick Making and Texturing (04) - Dust Collection System with Fabric Filter Baghouse; and Coal Processing System (08) with Fabric Filter Baghouse

Limitations

The following sections of the Virginia Administrative Code that have specific emission requirements have been determined to be applicable:

9 VAC 5-50-80, Modified Source Standard for Visible Emissions - Units that were constructed after March, 1972 are subject to the opacity requirement of 20%, except for one six-minute period in any one hour of not more than 30% opacity.

9 VAC 5-50-20E, Compliance - The facility, including any associated air pollution control equipment, shall be operated in a manner so as to minimize emissions.

9 VAC 5-40-260, Standard for Particulate Matter - 9 VAC 5-40-260A limits particulate emissions to 51.3 lbs/hr based on process weight rate of 100 tons per hour (for Units 02, 04); and particulate emissions to 7.78 lbs/hr based on process weight rate of 2.6 tons per hour (for Unit 08).

Monitoring

a. The permittee shall perform a visible emission observation on each baghouse exhaust stack (I.D. Nos. 2, 4, and 8) once each week during each week when there is operation. The visible emission observation shall be performed for a brief period of time to identify the presence of visible emissions. If, during any visible emission observation, visible emissions are observed (condensed water vapor/steam is not a visible emission) which are higher than 10% opacity, a visible emissions evaluation (VEE) shall be conducted using 40 CFR 60, Appendix A, Method 9, for six minutes. If the observed visible emissions are 10% opacity or less, no action shall be required. If the opacity average is higher than 20%, modifications and/or repairs shall be performed to correct the problem. If such correction action fails to correct the problem a VEE using 40 CFR Part 60, Appendix A, Method 9 shall be conducted for 18 minutes to determine compliance with the opacity limit. The visible emissions observer shall be Method 9 certified.

b. The permittee shall monitor daily the pressure drop across each baghouse filter to ensure proper operation and maintenance. If a change in pressure drop occurs (outside manufacturer's specification limits), the cause should be determined and corrective action taken to maintain proper operation.

Recordkeeping

a. The permittee shall maintain records of the weekly visible emission checks on each baghouse exhaust and any observations, VEE results, and corrective actions.

b. The permittee shall maintain records of the pressure drop across each baghouse filter, including any corrective actions taken.

Testing

The permit does not require source tests for this emission unit. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within four daytime business hours.

The general requirements which apply to the facility include the administrative requirements of Chapter 20 of State Regulations, which describe the authority of the DEQ and the responsibility of the company to provide accurate information pertaining to air emissions. This chapter also outlines the responsibility of the company to maintain the facility in proper operation.

Because the facility has units which were installed or modified after March 17, 1972, the compliance provisions of Chapter 50 of State Regulations apply. An opacity standard of 20% (one 6-minute period not more than 30%) applies.

FUTURE APPLICABLE REQUIREMENTS

The facility is a major source of sulfur dioxide and a hazardous air pollutant, hydrogen fluoride. Maximum Achievable Control Technology Standards (MACT) for brick and structural clay products manufacturing, under 40 CFR 63 (Subpart JJJJJ) and 9 VAC 5 Chapter 60, was promulgated on May 16, 2003. The facility may be subject to those requirements.

INAPPLICABLE REQUIREMENTS

New Source Performance Standard (NSPS) Requirements for Nonmetallic Mineral Processing Plants in 40 CFR Part 60, Subpart OOO is not applicable. 40 CFR 60.670(e) exempts shale preparation equipment since construction was prior to 8/31/83.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation[1]	Pollutant Emitted (5-80-720 B.)	Rated Capacity
01	Leffel-Scotch Boiler	5-80-720 C	PM, VOC, NOx, SO2, CO	2.5 MMBTU/HR
03	Brick Making/ Texturing; Plant #6	5-80-720 B	PM	40 Tons/hr
09	Kiln Car Vacuum Cleaners (2)	5-80-720 B	PM	N/A
10	Oil (Lubricating) Tanks (2)	5-80-720 B	VOC	3,000 gallons each
11	Diesel Fuel Tank	5-80-720 B	VOC	1,000 gallons

[1]The citation criteria for insignificant activities are as follows:
9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
9 VAC 5-80-720 B - Insignificant due to emission levels
9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

A public notice regarding the draft permit was placed in the Bristol Herald-Courier/Virginia-Tennessean, Bristol, Virginia, on November 8, 2000. EPA was sent a copy of the draft permit and notified of the public notice on November 6, 2000. The affected states, including Kentucky, Maryland, North Carolina and Tennessee, were sent a copy of the public notice by e-mail, fax or letter, dated November 6, 2000.

Public comments were accepted from November 6, 2000 through December 8, 2000. No comments were received from the public or the affected states regarding the draft permit. EPA sent comments in a letter dated December 7, 2000. Responses to EPA's comments can be found in the Response to Comments Document.

A public notice regarding the draft permit for revising the visible emission language (deletion of references to Method 22) was placed in the Bristol Herald-Courier/Virginia-Tennessean, Bristol, Virginia, on May 15, 2003. EPA was sent a copy of the draft permit and notified of the public notice on May 9, 2003. The affected states, including Kentucky, Maryland, North Carolina and Tennessee, were sent a copy of the public notice by e-mail, fax or letter, dated May 9, 2003. No comments were received from the public or the EPA. The public comment period closed on June 14, 2003.